

CHEMICAL ANALYSIS REPORT

April 2024

Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	S00580	S00577	S00579	G01673
					Acheron Intake	Arthurs Pass Intake	Castle Hill Intake	Claremont Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	< 0.00053	< 0.00053	< 0.00053	0.00054
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.074	< 0.05	0.096	0.057
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	< 0.3	< 0.3	< 0.3	5.3
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	< 0.5	0.8	< 0.5
Turbidity	NTU	2	5	2.5	0.096	0.065	0.222	0.098
pH	pH units	7.0 - 8.5	-	-	8	7.8	7.4	7.8
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	44.1	44.1	26.9	39.2
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	< 1.0	1.35	2.12	1.34
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	40.6	47.7	23.73	37
Electrical Conductivity	(mS/m)	-	-	-	9.5	10.4	6.2	10.9
Electrical Conductivity	(µS/cm)	-	-	-	95	104	62	109
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	63.5	69.5	41.44	72.7
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.011	< 0.0053	0.0127	0.0178
Total Calcium	(g/m³)	-	-	-	13.68	17.92	8.02	12.79
Total Copper	(g/m³)	<1	2	1	< 0.00053	0.00158	0.00131	0.00591
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000112	0.000194	0.000172	0.000192
Total Magnesium	(g/m³)	200.00	-	-	1.57	0.722	0.898	1.23
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	0.276	0.364	0.374	0.797
Total Sodium	(g/m³)	<200	-	-	2.47	2.1	2.71	5.46
Total Zinc	(g/m³)	<1.5	-	-	< 0.0011	0.00706	< 0.0011	0.00598
Chloride	(g/m³)	<250	-	-	0.95	0.73	0.66	3.94
Nitrate-N	(g/m³)	-	11.3	5.65	< 0.05	< 0.05	< 0.05	1.198
Sulphate	(g/m³)	<250	-	-	3.38	6.58	3.83	3.14
Absorbance at 254 nm	AU cm-1	-	-	-	0.0084	0.0096	0.0048	< 0.002
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	98.1	97.8	98.9	> 99.5

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					S00827	G01961-2	G01961	G00726
Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	Dalethorpe Intake	Darfield - Bore 1	Darfield - Bore 2	Dunsandel Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	0.0272	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.169	0.051	< 0.05	0.094
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	0.95	27.9	23	13.2
Total Organic Carbon	(g/m³)	-	-	-	0.8	< 0.5	< 0.5	< 0.5
Turbidity	NTU	2	5	2.5	0.104	0.281	0.7	0.107
pH	pH units	7.0 - 8.5	-	-	7.1	7.5	7.5	7.3
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	47.1	47.1	46.6	51.2
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	7.6	2.7	2.7	5.6
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	41.3	58.4	51.7	58.2
Electrical Conductivity	(mS/m)	-	-	-	11.3	17.3	15.9	15.9
Electrical Conductivity	(µS/cm)	-	-	-	113	173	159	159
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	75.4	116.2	106.8	106.5
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.068	0.0201	0.0203	0.0246
Total Calcium	(g/m³)	-	-	-	11.08	20.2	17.79	14.88
Total Copper	(g/m³)	<1	2	1	0.0015	0.00183	0.00595	0.00282
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000254	0.000156	0.000268	0.000334
Total Magnesium	(g/m³)	200.00	-	-	3.31	1.94	1.76	5.11
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	0.603	0.877	0.876	1.023
Total Sodium	(g/m³)	<200	-	-	6.32	9.35	8.98	8.89
Total Zinc	(g/m³)	<1.5	-	-	0.00182	0.00546	0.0261	0.015
Chloride	(g/m³)	<250	-	-	4.11	8.36	7.25	6.85
Nitrate-N	(g/m³)	-	11.3	5.65	0.214	6.3	5.2	2.99
Sulphate	(g/m³)	<250	-	-	2.26	1.46	1.4	5.2
Absorbance at 254 nm	AU cm-1	-	-	-	0.0162	0.0035	0.0046	< 0.002
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	96.3	99.2	98.9	> 99.5

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Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	G02166	S00828	G00822	G00671
					Edendale Bore	Hartleys Rd Intake	Hororata Intake	Jowers Rd Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.05	0.106	0.116	< 0.05
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	10.21	1.55	0.91	12.55
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	< 0.5	1.2	< 0.5
Turbidity	NTU	2	5	2.5	0.18	0.088	0.111	0.085
pH	pH units	7.0 - 8.5	-	-	7.8	7.1	7.5	7.8
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	43.8	41.5	44.2	60.7
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	1.51	7.2	3	2.03
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	44.8	36.2	39.3	71.8
Electrical Conductivity	(mS/m)	-	-	-	13.3	9.8	10.3	18.1
Electrical Conductivity	(µS/cm)	-	-	-	133	98	103	181
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	89.1	65.8	68.7	121.2
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0195	0.0286	0.0312	0.0219
Total Calcium	(g/m³)	-	-	-	15.66	10.83	11.79	23.9
Total Copper	(g/m³)	<1	2	1	0.00164	0.00915	0.00533	0.00227
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	< 0.00011	0.000646	0.000553	0.00161
Total Magnesium	(g/m³)	200.00	-	-	1.38	2.22	2.41	2.93
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	0.911	0.643	0.757	1.084
Total Sodium	(g/m³)	<200	-	-	7.47	4.79	5.21	7.03
Total Zinc	(g/m³)	<1.5	-	-	0.0125	0.00739	0.00421	0.042
Chloride	(g/m³)	<250	-	-	6.79	2.27	2.5	7.13
Nitrate-N	(g/m³)	-	11.3	5.65	2.3	0.351	0.206	2.83
Sulphate	(g/m³)	<250	-	-	3.02	3.38	3.44	6.31
Absorbance at 254 nm	AU cm-1	-	-	-	< 0.002	0.0066	0.0102	0.007
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	> 99.5	98.5	97.7	98.4

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Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	G00725	S00578	G00501	G03119
					Kirwee Bore	Lake Coleridge Intake	Leeston - Gallipoli Bore	Leeston - Leeston Dunsandel Rd Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	< 0.00053	< 0.00053	0.00061	0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.057	< 0.05	0.096	0.098
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	26.5	< 0.3	4.52	7.3
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	1	< 0.5	< 0.5
Turbidity	NTU	2	5	2.5	0.053	1.55	0.098	< 0.05
pH	pH units	7.0 - 8.5	-	-	7.7	7.7	7.7	7.7
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	42.6	26.9	44.6	47.6
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	1.54	1.09	1.62	1.93
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	61.1	25.5	37.8	41.5
Electrical Conductivity	(mS/m)	-	-	-	16.9	6.3	10.6	11.6
Electrical Conductivity	(µS/cm)	-	-	-	169	63	106	116
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	113.5	42.06	71	78
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0202	0.0189	0.0175	0.0179
Total Calcium	(g/m³)	-	-	-	21.03	9.04	11.24	12.04
Total Copper	(g/m³)	<1	2	1	0.00183	0.00123	0.00085	0.0006
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000161	0.000231	0.000294	< 0.00011
Total Magnesium	(g/m³)	200.00	-	-	2.08	0.71	2.36	2.78
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	0.00072	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	1.127	0.416	0.845	0.869
Total Sodium	(g/m³)	<200	-	-	8.63	2.01	6.08	6.52
Total Zinc	(g/m³)	<1.5	-	-	0.0191	0.00277	0.0123	0.00333
Chloride	(g/m³)	<250	-	-	8.78	0.84	4.57	5.73
Nitrate-N	(g/m³)	-	11.3	5.65	5.99	< 0.05	1.04	1.72
Sulphate	(g/m³)	<250	-	-	3.45	3.91	2.3	2.56
Absorbance at 254 nm	AU cm-1	-	-	-	< 0.002	0.0034	< 0.002	< 0.002
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	> 99.5	99.2	> 99.5	> 99.5

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Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	G02129	G03127	G03115
					Lincoln - Eastfield Dr Bore	Lincoln - Kakahi St Bore	Lincoln - Veuve Drive Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	< 0.00053	0.00055	0.00058
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.054	0.052	< 0.05
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	5.96	8.69	5.55
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	0.7	< 0.5
Turbidity	NTU	2	5	2.5	0.1	0.168	0.07
pH	pH units	7.0 - 8.5	-	-	7.9	7.9	7.9
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	51.8	49.6	38.5
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	1.22	1.25	< 1.0
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	51	49.2	49.7
Electrical Conductivity	(mS/m)	-	-	-	14.2	14.4	14
Electrical Conductivity	(µS/cm)	-	-	-	142	144	140
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	95.5	96.8	93.8
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.02	0.0204	0.0189
Total Calcium	(g/m³)	-	-	-	17.27	16.35	17.22
Total Copper	(g/m³)	<1	2	1	0.00074	< 0.00053	< 0.00053
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000134	0.000128	0.000282
Total Magnesium	(g/m³)	200.00	-	-	1.91	2.03	1.62
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	0.91	0.938	0.906
Total Sodium	(g/m³)	<200	-	-	8.55	8.5	8.44
Total Zinc	(g/m³)	<1.5	-	-	0.00565	0.00327	0.00244
Chloride	(g/m³)	<250	-	-	7.72	8.21	7.77
Nitrate-N	(g/m³)	-	11.3	5.65	1.35	1.96	1.25
Sulphate	(g/m³)	<250	-	-	2.29	1.82	2.56
Absorbance at 254 nm	AU cm-1	-	-	-	< 0.002	< 0.002	< 0.002
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	> 99.5	> 99.5	> 99.5

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					G03114	G00165	G00463	G02128
Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	Prebbleton - Shands Rd Bore	Prebbleton - Tosswill Bore 1	Prebbleton - Tosswill Bore 2	Prebbleton - Tosswill Bore 3
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	0.00055	0.00063	0.00058	< 0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)		1.5	0.75	0.055	0.051	0.051	0.06
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	2.09	3	3.27	3.03
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	< 0.5	< 0.5	1.1
Turbidity	NTU	2	5	2.5	0.157	0.151	0.107	0.065
pH	pH units	7.0 - 8.5	-	-	7.9	7.9	7.9	7.9
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	51.9	46.9	44.6	49.8
Free Carbon Dioxide	(g/m3 at 25°C)	-	-	-	1.18	1.14	1.08	1.12
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	45.3	42.2	40.7	44.5
Electrical Conductivity	(mS/m)	-	-	-	12.7	12	11.5	12.6
Electrical Conductivity	(µS/cm)	-	-	-	127	120	115	126
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	85	80.2	77.1	84.5
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0198	0.019	0.0183	0.0198
Total Calcium	(g/m³)	-	-	-	15.41	14.35	13.86	15.34
Total Copper	(g/m³)	<1	2	1	0.004	0.00075	< 0.00053	< 0.00053
Total Iron	(g/m³)	<0.3	-	-	0.033	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000278	0.000164	< 0.00011	< 0.00011
Total Magnesium	(g/m³)	200.00	-	-	1.65	1.54	1.48	1.5
Total Manganese	(g/m³)	<0.04	0.4	0.2	0.00359	< 0.00053	< 0.00053	0.00167
Total Potassium	(g/m³)	-	-	-	0.894	0.825	0.786	0.877
Total Sodium	(g/m³)	<200	-	-	7.75	6.97	6.67	7.54
Total Zinc	(g/m³)	<1.5	-	-	0.0106	0.00429	0.00348	0.00272
Chloride	(g/m³)	<250	-	-	4.96	4.75	4.45	5.26
Nitrate-N	(g/m³)	-	11.3	5.65	0.472	0.676	0.739	0.684
Sulphate	(g/m³)	<250	-	-	2.68	2.98	3.03	2.7
Absorbance at 254 nm	AU cm-1		-	-	0.002	< 0.002	< 0.002	< 0.002
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	99.5	> 99.5	> 99.5	> 99.5

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Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	G02192	G03084	G03020	G02009
					Rolleston - Helpet Bore 1	Rolleston - Helpet Bore 2	Rolleston - Baltimore Bore	Rolleston - Illinois Dr Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	0.00055	< 0.00053	< 0.00053	< 0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.054	< 0.05	< 0.05	< 0.05
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	9.52	16.1	13.5	31.5
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5
Turbidity	NTU	2	5	2.5	0.096	0.064	0.058	0.32
pH	pH units	7.0 - 8.5	-	-	7.6	7.6	7.7	7.3
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	52.7	44.5	46.5	49.8
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	2.4	2.03	1.93	4.9
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	51.2	51.6	51.2	73.1
Electrical Conductivity	(mS/m)	-	-	-	14.8	15.6	14.5	22.6
Electrical Conductivity	(µS/cm)	-	-	-	148	156	145	226
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	98.9	104.5	96.9	151.5
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0214	0.0209	0.022	0.0216
Total Calcium	(g/m³)	-	-	-	16.68	17.62	17.21	21.9
Total Copper	(g/m³)	<1	2	1	0.00267	0.00165	0.00079	0.00136
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021	0.022
Total Lead	(g/m³)	-	0.01	0.005	0.000113	0.000147	0.000385	0.00074
Total Magnesium	(g/m³)	200.00	-	-	2.32	1.86	2	4.46
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053	0.00114
Total Potassium	(g/m³)	-	-	-	0.975	0.958	0.95	1.37
Total Sodium	(g/m³)	<200	-	-	8.93	9.24	8.21	13.64
Total Zinc	(g/m³)	<1.5	-	-	0.00548	0.0113	0.00538	0.0557
Chloride	(g/m³)	<250	-	-	7.97	10.7	7.38	15.78
Nitrate-N	(g/m³)	-	11.3	5.65	2.15	3.63	3.05	7.11
Sulphate	(g/m³)	<250	-	-	2.1	2.05	1.59	5.79
Absorbance at 254 nm	AU cm-1	-	-	-	0.002	< 0.002	< 0.002	0.0044
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	99.5	> 99.5	> 99.5	99

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					G01672	G01874	G00167	G02191
Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	Rolleston - Izone Dr Bore	Rolleston - Westland Pl Bore	Rolleston - Moore St - Bore 1	Rolleston - Moore St - Bore 2
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	0.00054	< 0.00053	0.00086	< 0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	< 0.05	< 0.05	< 0.05	0.052
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	13.4	18.1	6.72	15.6
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5
Turbidity	NTU	2	5	2.5	0.09	0.125	0.066	0.078
pH	pH units	7.0 - 8.5	-	-	7.7	7.6	7.7	7.6
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	46.6	44.9	48.5	45.1
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	1.94	2	2.06	2.11
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	48.4	54.3	47.1	50
Electrical Conductivity	(mS/m)	-	-	-	14.4	15.8	13.5	14.8
Electrical Conductivity	(µS/cm)	-	-	-	144	158	135	148
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	96.6	105.8	90.6	98.8
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0218	0.021	0.0229	0.0203
Total Calcium	(g/m³)	-	-	-	16.36	18.52	15.23	16.96
Total Copper	(g/m³)	<1	2	1	0.00185	0.00249	0.00213	0.00209
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000141	0.00043	0.000507	0.00189
Total Magnesium	(g/m³)	200.00	-	-	1.83	1.95	2.21	1.86
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	0.955	0.992	0.929	0.943
Total Sodium	(g/m³)	<200	-	-	8.37	9.32	7.58	8.55
Total Zinc	(g/m³)	<1.5	-	-	0.0081	0.0099	0.00604	0.00851
Chloride	(g/m³)	<250	-	-	7.64	9.89	6.42	8.5
Nitrate-N	(g/m³)	-	11.3	5.65	3.03	4.09	1.52	3.52
Sulphate	(g/m³)	<250	-	-	1.64	1.9	1.72	1.75
Absorbance at 254 nm	AU cm-1	-	-	-	0.0032	0.0039	0.0022	0.004
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	99.3	99.1	99.5	99.1

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Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	G00668	G01113	G00820	G03053
					Rakaia Huts Bore	Rolleston - Overbury Cres Bore	Sheffield Intake	Southbridge -St John St Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	0.00675	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	< 0.00053	< 0.00053	< 0.00053	0.00061
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	< 0.05	< 0.05	0.104	< 0.05
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	3.07	22.1	14.8	13.4
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5
Turbidity	NTU	2	5	2.5	0.062	0.052	0.68	< 0.05
pH	pH units	7.0 - 8.5	-	-	7.5	7.6	7	7.8
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	40.1	47.2	52	57
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	2.3	2.4	11.5	1.92
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	38.2	61.4	63.2	54.8
Electrical Conductivity	(mS/m)	-	-	-	9.9	18.4	16.9	14.8
Electrical Conductivity	(µS/cm)	-	-	-	99	184	169	148
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	66.5	123.1	113.3	99.4
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0221	0.0223	0.0314	0.0198
Total Calcium	(g/m³)	-	-	-	13.41	20.42	16.29	19
Total Copper	(g/m³)	<1	2	1	0.00277	0.00105	0.0124	0.00225
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000379	< 0.00011	0.00247	0.000185
Total Magnesium	(g/m³)	200.00	-	-	1.14	2.53	5.46	1.79
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	0.864	1.075	1.183	1.168
Total Sodium	(g/m³)	<200	-	-	3.9	11.22	8.82	6.66
Total Zinc	(g/m³)	<1.5	-	-	0.0065	0.004	0.0772	0.00562
Chloride	(g/m³)	<250	-	-	1.91	13.28	7.07	5.56
Nitrate-N	(g/m³)	-	11.3	5.65	0.693	4.99	3.34	3.28
Sulphate	(g/m³)	<250	-	-	3.75	2.73	8.36	4.66
Absorbance at 254 nm	AU cm-1	-	-	-	0.0022	0.003	0.0151	< 0.002
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	99.5	99.3	96.6	> 99.5

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Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	G00675	G01794	G00675
					Springfield Intake	Springston Bore	Tai Tapu Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	< 0.00053	< 0.00053	< 0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.134	0.065	0.075
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	4.29	8.7	1.31
Total Organic Carbon	(g/m³)	-	-	-	1.1	< 0.5	< 0.5
Turbidity	NTU	2	5	2.5	0.53	< 0.05	0.214
pH	pH units	7.0 - 8.5	-	-	7.1	7.8	7.8
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	46.2	52.1	60.9
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	7.2	1.68	1.84
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	45.3	49	51.1
Electrical Conductivity	(mS/m)	-	-	-	11.6	14.3	14.6
Electrical Conductivity	(µS/cm)	-	-	-	116	143	146
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	77.9	95.8	97.9
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0311	0.0207	0.0193
Total Calcium	(g/m³)	-	-	-	12.47	16.41	16.04
Total Copper	(g/m³)	<1	2	1	0.00272	0.0009	0.00062
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000584	0.000146	0.000244
Total Magnesium	(g/m³)	200.00	-	-	3.43	1.95	2.68
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	0.868	0.915	0.884
Total Sodium	(g/m³)	<200	-	-	4.78	8.42	9.5
Total Zinc	(g/m³)	<1.5	-	-	0.00247	0.0063	0.0149
Chloride	(g/m³)	<250	-	-	2.52	9.61	6.36
Nitrate-N	(g/m³)	-	11.3	5.65	0.969	2.08	0.295
Sulphate	(g/m³)	<250	-	-	3.3	2.18	2.63
Absorbance at 254 nm	AU cm-1	-	-	-	0.0152	< 0.002	< 0.002
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	96.6	> 99.5	> 99.5

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					G00680	G01169	G01315
Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	Taumutu Bore	Te Pirita Bore	Upper Selwyn Huts Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	0.00057	< 0.00053	< 0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.064	0.051	0.071
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	6.25	24.7	1.14
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	< 0.5	< 0.5
Turbidity	NTU	2	5	2.5	0.117	0.052	0.219
pH	pH units	7.0 - 8.5	-	-	7.8	7.8	8
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	37.1	45.3	77.8
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	1.27	1.36	1.68
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	38.3	65.6	63.5
Electrical Conductivity	(mS/m)	-	-	-	10.7	16.5	18
Electrical Conductivity	(µS/cm)	-	-	-	107	165	180
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	72	110.3	120.5
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0193	0.0207	0.021
Total Calcium	(g/m³)	-	-	-	11.9	22.06	19.39
Total Copper	(g/m³)	<1	2	1	0.00066	0.00141	0.00096
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021
Total Lead	(g/m³)	-	0.01	0.005	0.000138	0.000254	0.000375
Total Magnesium	(g/m³)	200.00	-	-	2.09	2.55	3.66
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053
Total Potassium	(g/m³)	-	-	-	0.89	1.115	0.989
Total Sodium	(g/m³)	<200	-	-	5.93	5.34	12.75
Total Zinc	(g/m³)	<1.5	-	-	0.00121	0.00306	0.00652
Chloride	(g/m³)	<250	-	-	5.26	6.5	8.23
Nitrate-N	(g/m³)	-	11.3	5.65	1.41	5.58	0.257
Sulphate	(g/m³)	<250	-	-	2.14	3	2.38
Absorbance at 254 nm	AU cm-1	-	-	-	0.004	0.0064	0.0042
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	99.1	98.5	99

CHEMICAL ANALYSIS REPORT

April 2024

Determinents	Units	Guideline Value	Maximum Acceptable Value	1/2 MAV	G01957	G01958	G01775	G03061
					West Melton - Elizabeth Allen Dr Bore	West Melton - Jacqueline Dr Bore	West Melton - Royston Common Bore	West Melton - Ridgeland Way Bore
Total Antimony	(g/m³)	-	0.02	0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021
Total Barium	(g/m³)	-	1.5	0.75	< 0.0053	< 0.0053	< 0.0053	< 0.0053
Total Cadmium	(g/m³)	-	0.004	0.002	< 0.000053	< 0.000053	< 0.000053	< 0.000053
Total Chromium	(g/m³)	-	0.05	0.025	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Mercury	(g/m³)	-	0.007	0.0035	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Total Nickel	(g/m³)	-	0.08	0.04	< 0.00053	< 0.00053	< 0.00053	< 0.00053
Total Selenium	(g/m³)	-	0.04	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Bromide	(g/m³)	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	(g/m³)	-	1.5	0.75	0.058	0.05	0.057	< 0.05
Nitrite-N	(g/m³)	-	0.91	0.455	< 0.002	< 0.002	< 0.002	< 0.002
Nitrite	(g/m³)	-	3	1.5	< 0.007	< 0.007	< 0.007	< 0.007
Nitrate	(g/m³)	-	50	25	10.38	9.9	12.38	10.7
Total Organic Carbon	(g/m³)	-	-	-	< 0.5	< 0.5	0.6	< 0.5
Turbidity	NTU	2	5	2.5	0.332	0.26	0.109	0.295
pH	pH units	7.0 - 8.5	-	-	7.2	7.2	7.2	7.5
Total Alkalinity	(g/m³ as CaCO₃)	-	-	-	46.9	46.4	50.4	40.7
Free Carbon Dioxide	(g/m³ at 25°C)	-	-	-	6	6	7.1	2.4
Total Hardness	(g/m³ as CaCO₃)	<200	-	-	51.1	51.9	58.8	44.5
Electrical Conductivity	(mS/m)	-	-	-	14	14.1	15.3	12.4
Electrical Conductivity	(µS/cm)	-	-	-	140	141	153	124
Approx Total Dissolved Salts	(g/m³)	<1000	-	-	93.9	94.5	102.7	83.2
Total Arsenic	(g/m³)	-	0.01	0.02	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Total Boron	(g/m³)	-	2.4	1.2	0.0208	0.0203	0.0214	0.0201
Total Calcium	(g/m³)	-	-	-	16.95	17.33	19.36	14.98
Total Copper	(g/m³)	<1	2	1	0.00181	0.00209	0.00392	0.00189
Total Iron	(g/m³)	<0.3	-	-	< 0.021	< 0.021	< 0.021	0.027
Total Lead	(g/m³)	-	0.01	0.005	0.000169	0.00163	0.000571	0.000239
Total Magnesium	(g/m³)	200.00	-	-	2.13	2.1	2.53	1.73
Total Manganese	(g/m³)	<0.04	0.4	0.2	< 0.00053	< 0.00053	< 0.00053	0.00143
Total Potassium	(g/m³)	-	-	-	0.947	0.925	0.996	0.884
Total Sodium	(g/m³)	<200	-	-	6.16	5.93	6.55	5.85
Total Zinc	(g/m³)	<1.5	-	-	0.0167	0.00504	0.0646	0.0289
Chloride	(g/m³)	<250	-	-	4.05	4.16	5.66	4.72
Nitrate-N	(g/m³)	-	11.3	5.65	2.34	2.24	2.79	2.42
Sulphate	(g/m³)	<250	-	-	6.62	6.49	6.95	4.22
Absorbance at 254 nm	AU cm-1	-	-	-	0.0034	0.003	0.0028	0.0034
Transmittance at 254 nm	%T, 1 cm cell	80	-	-	99.2	99.3	99.4	99.2